VM-2500-MG Multigas/SpO$_2$ Monitor Technical Data

Display

Parameters displayed	Numerical	End-tidal (et) CO_2, N_2O and agent concentrations, inspired (Fi) CO_2, N_2O, and agent concentrations, oxygen saturation (SpO$_2$), Respiration Rate (RR), Pulse Rate (PR)
	Graphical	Capnogram and trends of numerical data (15 min/1 hour/6 hours)
	Indicators	Signal strength and signal quality, pulse amplitude, battery status, alarm mute, pulse tone mute, stoarge status, real-time mode, neonatal mode, time
Characteristics		Active OLED colour display, 262,000 colours, 240 x 320 pixel (42 mm x 56 mm)

Capnography and Anaesthetic agent measurement specifications

Measurement Range	etCO$_2$ and FiCO$_2$	0 - 15%
	FiN$_2$O	0 - 100%
	Hal, Iso, Enf	0 - 8%
	Sev	0 - 10%
	Des	0 - 22%
	Respiration Rate	0 - 150 1/min
Accuracy	etCO$_2$ and FiCO$_2$	± (0.2 Vol % + 2% of reading)
		± (0.3 Vol % + 4% of reading) including interfering gases
	N$_2$O	± (2 vol % + 2% of reading)
		± (2 vol % + 5% of reading) including interfering gases
	Hal/Iso/Enf/Sev/Des	± (0.15 Vol % + 5% of reading)
		± (0.2 Vol % + 10% of reading) including interfering gases
	Respiration Rate	± 1 digit
Warm-up time		< 20 seconds to full specification

Pulse Oximetry Specifications

Measurement Range	SpO$_2$	0 - 100%
	Pulse Rate	20 - 300 1/min
Accuracy	SpO$_2$	± 2% (70 to 100%)
	Pulse Rate	± 1 digit (up to 100 1/min) or ± 1% (> 100 1/min)

Trend Information

Long term trend	up to 150 hours
Short term trend	15 min/1 hour/6 hour

Alarms

Limits	Adjustable limits for all numerical parameters except for MAC
Alarms	Audible and visual alarms (complies with EN 60601-1-8)

Storing Data

Comunication Interface	USB 2.0
Data Memory Capacity	up to 150 hours
Real-time mode	Visualisation and storage of numerical parameters on a computer every 4 seconds
Computer software	Capnograph MG PC Software for data download and real-time mode

Power Supply

Battery	Working time with full functionality approximately 4.5 hours, 4 alkaline batteries (AA/LR6/AM3/MN1500/Mignon), 1.5V
Li-Poly battery	Working time with full functionality approximately 7 hours, Li-Poly battery, Model No. CT-2500, 3.7V, 2500 mAh, charging time approx 5 hours.
AC power supply	Model No. FW 7660M/06, medical power supply, input: 90 - 260V AC/50 - 60 Hz/ 250 mA, output: 6V DC/1.4A.

Environmental conditions

Operation	10 - 40°C, 15 - 95% RH (non-condensing), 60 - 120 kPa (excluding Li-Poly battery)
Storage	- 20 - 70°C, 10 - 95% RH (non-condensing), 60 - 120 kPa (excluding Li-Poly battery)

Classification

Class	IIb (according to MDD 93 / 42 / EEC)
Safety	Class of protection II/Type BF - Type and degree of protection against electrical shock
Construction	IPX1 (with silicone protection cover)
Standards	EN 60601-1:1988; IEC 60601-1-2:2007; IEC 60601-1-4:2000; IEC 60601-8:2006; ISO 21647:2004; ISO 9919:2005; ISO 5356-1:2004; DIN EN 1789:2007; EN864:1996.

Dimensions and Weight

150 (L) x 75 (W) x 35 (D) mm, < 400g (complete device with batteries)

Part Numbers

VM-2500-MG	Capnograph Multigas	4410550
	Language Package - Central European, including: English, Dutch, German, Spanish, French, Italian, Swedish and Russian	
Carrying Case for VM-2500-MG		4420620

NB. When ordering either the VM-2500-MG please select from the following reusable sensor styles: Soft Sensor (Adult or Paediatric), Finger Sensor, Silicone Wrap Sensor, Ear Sensor and indicate at the time of ordering. Autoclavable sensors are available.

Mounting Options

0121197	0121184	0121182
'V' Mount Pole Clamp Multi-Position	'V' Mount Pole Clamp — Small: 14 - 25mm span	'V' Mount Pole Clamp — Large: 16 - 40mm span

0121200	0121202	0022171
Universal Mounting Clamp	'V' Wall Mount	Universal Mounting Plate

Carrying Case for VM-2500MG

Part Number: 4420621

- Fluid repellent
- Non rot
- U.V. stable
- Washable at 60°C
- Self healing and waterproof zips
- micrAgard silver-lining inners
- Abrasion and tear resistance
- High visibility and reflective properties

Part Number: 4420620

Distributed by:

VIAMED

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capnography

VM-2500-MG
Multigas/SpO$_2$ Monitor

High performance and versatile anaesthetic agent monitoring

- Innovative micro-optic technology
- Direct mainstream measurement without time delay
- Warm-up time: < 1 minute to full specification
- Maintenance and calibration-free technology
- Colour OLED display
- Application range from neonates to adults

VM-2500-MG

The ultra-compact, light and easy to handle design of the Capnograph Multigas Monitor is the perfect flexible and mobile monitor for identifying and quantifying the five most important anaesthetic agents as well as other gases and parameters.

- Halothane, Isoflurane, Enflurane, Sevoflurane and Desflurane
- N$_2$O
- etCO$_2$, FiCO$_2$
- Oxygen saturation
- Respiration and Pulse Rate

By direct mainstream measurement, there is no monitoring time delay.

VIAMED

The ultra-compact, ergonomic design of the Capnograph MG combines outstanding performance and reliability in pulse oximetry and mainstream monitoring of anaesthetic agents and CO_2

Standard Package

- Capnograph Multigas Monitor
- IRMA™ AX+ analyser
- IRMA™ Airway adapter (Adult/Paediatric)
- Reusable SpO_2 sensor*
- USB data cable
- Power supply (FW7660M/06)
- Power supply (UK and EU plugs)
- 4 x AA batteries
- 1 x Li-Poly battery (CT-2500)
- Silicone protective cover
- PC software
- Instruction manual on CD

N.B. Please select from the following sensor styles:
Silicone Soft Sensor (Adult or Paediatric), Finger Sensor, Silicone Wrap Sensor or Ear Sensor, and indicate at the time of ordering.

Reliable automatic agent identification and quantification

The **IRMA AX+ Analyser** is equipped with state-of-the-art NDIR technology with up to 9-channel gas type analysis in the 4 - 10 μm range and offers reliable agent identification and quantification, even in gas mixtures. The **IRMA AX+ Analyser** is lightweight, small and shock-resistant. It weighs less than 25g.

Key features of the Capnograph MG

- Innovative micro-optic technology
- Direct mainstream measurement without time delay
- Compact, robust and ultra-light multigas analyser
- Warm-up time: < 1 minute to full specification
- Maintenance and calibration-free technology
- Self-explanatory, ergonomic operating functions facilitate intutive operation
- The Colour OLED information display, as well as the simple information structure - support quick decisions and a rapid user reaction in critical situations
- Leading-edge power management with standard alkaline batteries or Li-Poly batteries or medical power supply (or combined)
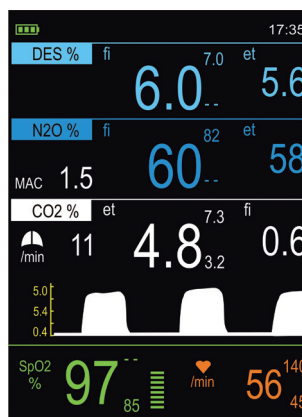- Application range from neonates to adults
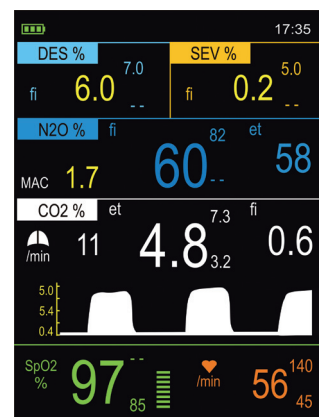
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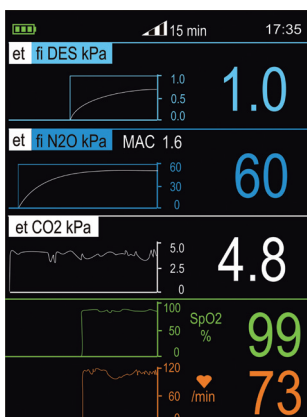
Multi Trend - 15 minutes
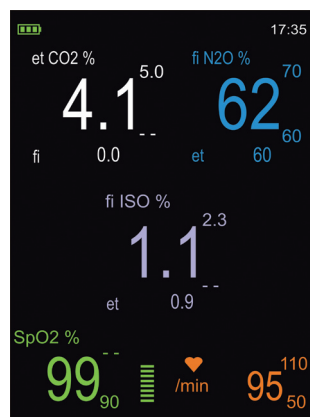
**Numerical
1 Anaesthetic Agent**

**Standard
1 Anaesthetic Agent**

**Standard
2 Anaesthetic Agents**

Key Technology Accessories

SpO$_2$ Sensors

The Capnograph MG provides leading technology sensors and accessories

A wide range of flexible, robust and hygienic paediatric and adult SpO$_2$ sensors are available, as well as disposable sensors for use on adults through to neonates.

With the Autoclavable version Silicone Finger Sensors, it is now possible for the first time to autoclave SpO$_2$ sensors at 134°C, and to significantly reduce the risk of nosocomial infections cause by pathogenic microorganisms or multi-resistant germs.

Available Sensors

A Also available in Autoclavable version

A Adult Soft Sensor

A Paediatric Soft Sensor

Finger Sensor

A Silicone Wrap Sensor

Disposable Sensors
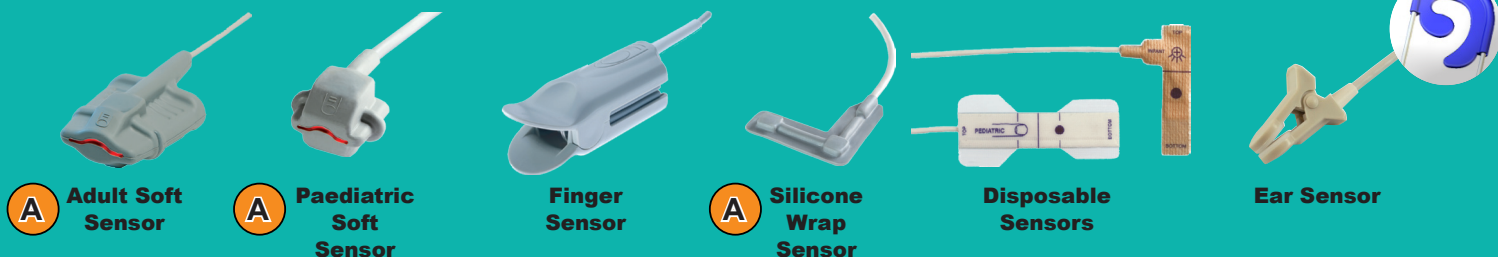
Ear Sensor

NB. When ordering the VM-2500-MG please select from the following reusable sensor styles:
Soft Sensor (Adult or Paediatric), Finger Sensor, Silicone Wrap Sensor, Ear Sensor and indicate at the time of ordering. Autoclavable sensors are available.
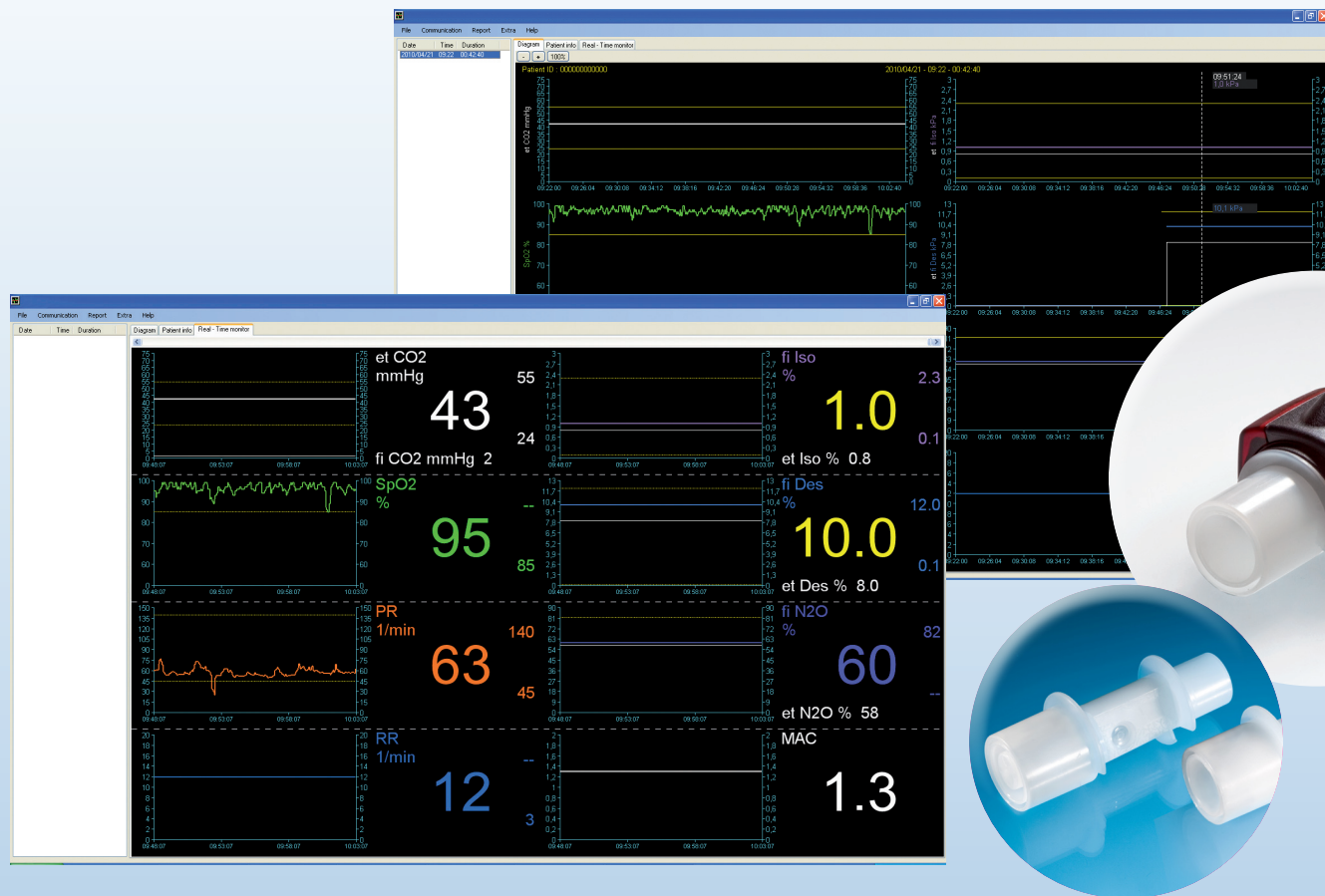
Powerful Capnograph MG PC Software

With the convenient Capnograph MG PC Software all measured values, selected alarm limits and alarm messages can be transferred to the computer via the USB interface. The data can be viewed on the computer and patient information added. The PC software enables basic statistical evaluation of the stored data.

The software can also be used to display and store the measurement values and alarm messages on the computer in parrallel to ongoing measurements. This function is activated by setting the real-time mode of the Capnograph MG. When this mode is activated, the device transfers the actual measurement values for the anaesthetic agents, N_2O, $etCO_2$, $FiCO_2$, SpO_2, Respiration and Pulse Rate to the computer via the USB interface.

Capnograph MG Multigas Analyser

The **IRMA AX+ Multigas Analyser** which weighs just 25g, sets new standards in mainstream anaesthetic agent monitoring and provides reliable and comprehensive monitoring of CO_2, N_2O, Halothane, Isoflurane, Enflurane, Sevoflurane and Desflurane through direct measurement without time delay.

- 9-channel NDIR gas type analysis (4 - 10 µm)
- Calibration and maintenance-free
- Compact and shock-resistant design
- Plug-and-measure technology

The **IRMA Airway Adapter** with low dead space volumes and supplied in two versions for adult/paediatric and infant applications.

- Adult/Paediatric version: dead space volume 6ml
- Infant version: dead space volume 1ml
- Innovation non-condensing light transmission XTP™ window

Applications

Capnograph MG is well suited for monitoring CO_2, N_2O and oxygen saturations as well as the anaesthetic agents Halothane, Isoflurane, Enflurane, Sevoflurane and Desflurane during anaesthetia and mechanical ventilation.

Capnograph MG can be used on adults to infants in hosptials and mobile operating rooms, recovery rooms, intensive care units and emergency care departments